STRATEGIES

For Improving Environmental Benefits Analysis

from

Improving Environmental Benefits Analysis For Ecosystem Restoration Planning

Strategy for Improving Environmental Benefits Analysis

Component & Time Horizon	Emphasis Regarding: - ***Model development*** ***- Staff model use capabilities*** ***- Policy & guidance needs***
Near-term (2-3 years)	- Incremental: Modest improvements in species & community index models - Improve staff selection and use of existing models.
Intermediate (~5 years)	- Next generation of models – functional capacity & process models integrating landscape scales - Rethink NER objectives in terms of services ($ and non-$) -Improve capabilities to evaluate multiple outputs
Long-Range (~ 10 years)	- Explore more comprehensive economic valuation of ecosystem services

Near-term: Improve Model Selection & Use Capabilities

- Finalize reference protocol summarizing different model types, attributions, limitations & utility in 6-step planning process
- Integrate ecological concepts and approaches to benefits analysis into broader suite of existing courses
- Web-based tool catalog
- Workshops on model selection; use real projects; invite other agency participants
  - Use feedback to improve course material

Near-term: Future Policy & Guidance Refinement

- Consider ecological concepts and issues discussed as basis for future policy and guidance

- Examine NER Concept
  - Policy study examining potential usefulness of *ecosystem service* concept for defining NER as a formulation construct and in future method development

Intermediate: Model Development

- Develop and refine ecosystem process models to forecast resource responses and other restoration outputs, useful in Corps plan evaluation frameworks
- Investigate development of a metric based on the scarcity of ecosystem biodiversity and its usefulness for determining resource significance of NER plans
- EMRRP, the Environmental Modeling and System-wide Assessment Center and other R & D could play significant roles in extending application of current tools and developing new ones.
- Form model application assistance team(s) – and feedback mechanisms for policy, guidance, and research.

Intermediate: Policy & Guidance

- **Refine NER objective and output specifications**
  - **Examine mixes of ecosystem services, the benefits of which can be compared with traditional NED outputs**
    - **Assess possible advantages and practicality of defining an NER account that specifies these services.**
  - **Improve multi-output evaluation relative to resources & services using ecosystem process simulation models.**
  - **Explore new analytical frameworks for joint NED/NER planning**
    - **include the opportunity-cost framework of the P&S for evaluating tradeoffs between economic and non-monetary environmental effects.**
  - **Consider broader notion of benefits analysis to eliminate differences in standards and evaluation for NER and NEPA analysis, and include EOP sustainability.**

Longer-term:

- **Explore more comprehensive economic valuation of ecosystem services.**

- **Attempt to link ecological process simulation with economic valuation methods for the evaluation of restoration outcomes in economic terms (net economic benefit).**

  - **If deemed practical and acceptable, could contribute to the development of standard analytical tools, and policy that *would allow more NER outcomes to be evaluated in NED terms*.**